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BOOK REVIEWS

Systems Analysis in Agricultural Management, J. B. Dent and J. R. Anderson, John Wiley & Sons Australasia Pty. Ltd., Sydney 1971. Pp. xviii+394. \$14.95.

In recent years, systems analysis is becoming increasingly popular among research workers for the analysis of a wide variety of problems. Just like many other techniques available in operations research, the techniques of systems analysis were developed by military scientists to analyse the full implications of alternative strategies. The basic idea underlying the systems approach is that a given situation can be viewed in the context of many interacting elements and an individual element in the system can be understood properly only if it is viewed in the context of the whole system. In other words, in a systems approach, attention is necessarily focused on understanding the interactions within the system as well as the behaviour of individual components which, in turn, reinforces the understanding of the system. Naylor and others have identified four elements of a system, *viz.*, components, variables, parameters, and relationships.¹

The application of the systems approach in economic analysis can be broadly grouped into (1) operations within a firm, (2) firm model, (3) industry model, (4) models of commodities or industry adjustment, (5) economy model, and (6) growth model. In the book under review, Dent and Anderson present a collection of 17 articles describing the application of systems concepts to the biological, economic, and technological problems involved in managing agricultural production.

The 17 chapters of the book can be divided into four sections, *viz.*, (1) Introduction (Chapter 1), (2) Techniques and Methods in Simulation (Chapters 2 to 6), (3) Case Studies on the Application of the Systems Approach to Crop, Livestock, and Bio-Economic Systems (Chapters 7 to 16), and (4) Epilogue (Chapter 17).

The first section introduces the reader to the basic concepts of systems approach and its application to agricultural production systems.

The section on techniques and methods in simulation begins with a description of systems research with particular emphasis on analysis, synthesis, and the use of models. This is followed by a discussion on the procedures and problems in systems simulation, *i.e.*, modelling, validation, and experimentation. The second chapter also describes a number of unresolved problems in methodology. In systems analysis, the statistical theory has two important applications, (1) in the areas of generation of stochastic

1. T.H. Naylor, *et. al.*: *Computer Simulation Techniques*, John Wiley, New York, 1966.

elements within a model and (2) in testing the results from a model. Chapter 3 outlines the utility of statistical methods in systems analysis. A detailed discussion on computer languages (both general and special purpose) for systems simulation is presented in Chapter 4. This is followed by a discussion on iterative computing methods using graphic and character display. Finally, the section ends with a chapter on the interpretation of the systems simulation output for managerial decision-making. This chapter also suggests an approach to reduce the problems associated with data handling at the output level of the model. On the whole, the five chapters on techniques and methods in simulation provide a fairly good description of the theoretical framework and operational details needed for systems simulation. The discussion on these aspects also brings out a number of limitations of this approach.

The third section gives 10 case studies on various systems. Under the crop and livestock systems, examples are provided on the crop irrigation system, evaluation of soil conservation policies, extensive grazing and intensive grazing systems, and fodder conservation for drought. Examples given on bio-economic systems are on spatial diversification of high-risk sheep farms, livestock performance and capital investment in farm enterprises, farm machinery selection and weather uncertainty, growth of farm firms, and human food chains. As the editors have pointed out, two key features are common to most of these cases, *viz.*, (1) the complexity of the managerial situation, which in part arises from the numerous dynamic inter-relationships which must be considered and (2) the pervasive influence of the stochastic factors which adds to the complexity of managerial decision-making.

In the last section, the editors present an evaluation of the systems approach and point out the undesirability of comparing the system simulation with tools like linear programming. They believe that during the next few years simulation of agricultural systems will enjoy the present operational status of linear programming. Further, because of the substantial set-up costs involved initially, these techniques will find commercial application only in the analysis of large agricultural enterprises.

“The aims of this book,” as the editors point out, “are to illustrate some of the complexities of agricultural production systems; to indicate the progress that has been made in applying simulation methods to these systems, and the benefits that accrue from such analysis; and, finally, to detail advances in methodology that are particularly pertinent to the simulation of agricultural systems.” The editors have elucidated some of the basic methods of systems analysis in an agricultural context and illustrated the value of the systems approach through a number of studies on different commodity systems. The book will prove to be a valuable reference text for researchers in applied biology, agricultural economics, and resource management.

It needs to be pointed out, however, that apart from the example on human food chains, all the other cases given in this book are mainly drawn from agricultural production systems. The usefulness of this section would have been substantially enhanced if some examples from agricultural marketing systems had also been given. As Ogren and Blaich² point out "...today's (agricultural) marketing system does much more than transmit products through the various steps between the producer and the ultimate consumer. It is an integral part of the entire productive process. The scope of marketing extends beyond the sequence from farms to consumers; it includes the processing and distribution of feeds, fuels, fertilizer, feeder cattle, and many other inputs to farmers. Agricultural production, the supplying of farm inputs, and the marketing of farm products are, therefore, not separate entities, but part and parcel of one continuous sequence of productive process." It would have been more appropriate had the term agricultural management included the total agricultural business systems incorporating production, processing, and marketing. However, it must be pointed out that the theoretical framework provided in the book will enable an interested reader to build up this enlarged definition of agricultural systems.

Considering the fact that this is one of the few books available in systems approach, the authors have made a substantial contribution to the available literature. Though the examples provided by the cases are relevant to a more advanced agriculture in comparison with the Indian situation, they can be used as useful reference material for developing a theoretical framework for a systems analysis of Indian agriculture.

P. S. GEORGE

Some Aspects of India's Tax Structure: An Economic Analysis, Ved P. Gandhi, Vora & Co., Publishers Pvt. Ltd., Bombay, 1970. Pp. xiv + 202. Rs. 15.00.

Fiscal policy plays a significant role in the overall performance of the economy. It is planned non-neutrality rather than neutrality that is being aimed at in fiscal policy in recent times. There should be proper co-ordination between the objectives of fiscal policy and the overall economic policy of the country. Allocative efficiency and distributive equity are considered to be the primary objectives of the fiscal system of a developing economy. Each of the fiscal instruments has to be so designed as to perform its function of allocating resources to the priority objectives and also to achieve more equitable distribution of income and wealth. Since equity and efficiency cannot be attained simultaneously with the same degree of success, it may be necessary to give weightage to these objectives in the course of economic development. This may necessitate frequent assessment and reformulation

2. K.E. Ogren and O.P. Blaich, "Co-ordination of Production and Marketing by Contract" Paper presented at National Marketing Service Workshop, Louisville, Kentucky, November 12, 1964.

of the overall fiscal system in the light of a changed composition of the objective function.

A number of studies both by official agencies and private research workers evaluating the tax aspect of the Indian fiscal system are available at present. However, only few studies contain what may be called economic analysis—application of the scientific logic and techniques in the process of evaluation. The study under review is a scientific examination of some salient aspects of three important taxes: non-agricultural personal income taxation, taxation of agriculture and company taxation.

There are in all thirteen chapters, three appendices, a select bibliography and the index in this short book of 202 pages. Ten of the thirteen chapters and one appendix are the reprints of or based upon the already published studies of the author.

In the first part there is a discussion of personal income taxation. After outlining some of the general problems like the concept of income, treatment of capital gains and personal income-tax structure in India, the author builds a theoretical framework to consider the effects of the income-tax structure on personal savings and investment of the richer class of tax payers. He has also attempted to measure the effect of income-tax on personal savings in India and also on equity. His conclusion is that unless the average rate of return on wealth is 10 per cent, there would be dis-saving by the rich, and that the progressive structure and very high maximum rates of income and wealth taxation cause disincentive effects on personal savings of the rich. On the basis of the ratios of pre-tax and post-tax coefficients of concentration, the author concludes that income-tax as an equity measure has not been effective in India. Gandhi's findings are as provocative as they are analytical. Perhaps, if one analyses the effects of the public economy as a whole on income distribution, one may end with a similar conclusion that public finance measures in India have been not only not effective in bringing about equity, but, some measures are actually inequitous in effect. For instance, increasing growth of non-developmental expenditures, especially on debt repayment and services, the regressive nature of the tax system, heavy reliance on commodity taxation, large scale evasion brought about by the ineffective high rates of taxation, etc., all go in supporting the conclusion.

The second part consisting of six chapters is devoted to the analysis of the corporate taxation in India. While the first three chapters and the three appendices examine the major features of the corporation tax in the Indian context with an object of suggesting certain reforms especially in the depreciation policy and export promotion through tax incentives, the more interesting contributions of this part consist in Chapters 7 and 9. It has been argued by the author on the basis of a detailed statistical study that the corporation tax in India falls essentially on the capital (either through the reduction of stockholders' current dividends or through the reduction of

retentions by the companies). This conclusion is at variance with the findings of few other researchers in the field. That corporation tax is either shifted forward to the consumers by way of higher prices or backward to the resource-owners by way of reduced rewards (especially lower wages to labour) or borne by the capital itself has a great significance in deciding the nature of this tax as an indirect tax or a direct tax. With the problems of multicollinearity among the explanatory variables of the model (*e.g.*, income and investments, sales and wholesale prices of manufactured goods, demand for industry's product and the dividend rate, etc.), with the existence of governmental control of the industrial sector in India, with data limitations, etc., the major empirical conclusions will have to be accepted with a caution. An illuminating international survey of the different aspects of the corporation tax and their implications for investment activity shows that in almost all countries corporation tax is not neutral so far as the investment activity is concerned. In order to make this tax non-neutral in a positive direction the author suggests that the corporation profits tax should be replaced by the value added tax. It may perhaps be worthwhile to study the experience of other countries which have already levied a value added tax, before making a serious recommendation for a new levy.

Part III consisting of four chapters studies some aspects of taxation of agriculture. That agricultural sector in India has been relatively under-taxed than the non-agricultural sector, has been argued out by a number of authors including Gandhi himself, who has summarized in Chapter 10, the findings of his earlier study of the taxation of Indian agriculture. His statistical study of Chapter 12 supports his recommendation for higher taxation of agriculture, for, the marginal upward revision of land taxation is not found to be adversely affecting agricultural productivity. However, the subsidies are found to be positively related with agricultural productivity. Hence, the current trend of reduction of subsidies to agriculture has come in for a serious criticism by the author. But one fails to understand how the two measures of increased taxation and increased subsidization of agriculture, can be reconciled in the interest of increased tax burden on agriculture and inter-sectoral equity in taxation. In the field of taxation of agricultural incomes, the author attempts a cost-benefit analysis (merely listing of costs and benefits) of the integration of the State taxation of agricultural incomes with the Central income-tax. According to him, this measure would yield a revenue of Rs. 75 crores as against the present yield of Rs. 10 crores from the State taxation. Though the practical problems of the integration involved in assessment of agricultural incomes and tax demand cannot be under-rated, this measure has a strong support in the argument that equal treatment of equals (in the agricultural and non-agricultural sectors) is a necessary precondition for justice in taxation.

Two major taxes, commodity taxes and property and wealth taxes, have been omitted in this study of India's tax structure. Commodity taxes are

greatly important from the point of view of their revenue productivity, fetching more than half of the total revenue. Wealth and property taxes assume importance particularly when there is a controversy about the efficacy of the physical (*e.g.*, ceilings on property and wealth) and fiscal measures (wealth and property taxes) for social justice. A systematic analysis of these taxes also would have raised the value of the book under review.

P. R. PANCHAMUKHI

Production and Marketing Pattern of Paddy (A Study of Local and High Yielding Varieties in the West Godavari District), P. S. George and V. V. Choukidar, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, 1972. Pp. x + 270.

This study examines the production, marketing and characteristics of the farmers adopting high-yielding varieties (HYV) of paddy in the West Godavari district of Andhra Pradesh. The average size of operational holdings was found to be 11.09 acres varying between 1.62 to 93 acres. The main sources of irrigation were the canal and bore-wells. The cultivation of HYV was confined to the delta area having adequate irrigation facilities. These varieties covered about 25 per cent of the area under paddy crop. IR-8 variety in spite of its highest cost of cultivation was the most profitable. During the *kharif* season the farmers were reverting to the cultivation of local varieties as the HYV mature in October when rains cause serious damage. The local varieties, on the other hand, mature late and are not thus damaged by rains. However, the area under HYV during the *rabi* season was on the increase.

The degree of adoption of HYV was related to the size of holding, education and social status of the farmers. Age showed a negative relationship. Thirty-three per cent of the farmers were willing to adopt HYV, and the rest were reluctant as they thought the cultivation of HYV non-profitable and risky. This was more true in the case of small farmers. The lack of knowledge was one of the important characteristics of the non-adopters.

About 30 per cent of the total paddy produced was consumed at the farm. This mainly came from *kharif* crop and *Akkulu* variety, a local strain. The rest, 70 per cent was meant for disposal.

The major portion of the marketed surplus (90 per cent) emerged from the *rabi* crop and the rest from the *kharif* crop. The size of the farm has a direct relationship with the marketable surplus. About 90 per cent of the marketed surplus was sold during the post-harvest seasons to repay the old debts and invest in the next crops. The major buyers for paddy were the resident agents as they provided better prices and services. For HYV the

farmers generally received lower prices than that prescribed by the Government. The share of the farmer in the consumer's rupee was found to be 83 per cent. The marketing charges included *Dharmadaya* (2 to 5 paise per bag) and trade deductions at 30 paise per bag.

For making the HYV programme a success the study has suggested various measures, *viz.*, extension of area under HYV during the *kharif* season, setting targets for coverage of area under HYV, crop insurance scheme, modifications in inputs, financial help to the small farmers for adopting orderly marketing, assured prices to farmers, and educating the farmers by intensive propaganda regarding package practices and high-yielding varieties. The study is quite informative. The authors have done a good job and have generated a mass of useful data.

The authors could have, however, eliminated certain items which do not directly influence the production and marketing of paddy such as the characteristics of the selected villages, blocks and some items from the profile of the West Godavari district, as well as discussions on advantages from certain schemes, housing pattern, etc. The chapter on "Behavioural aspects of a dynamic paddy-rice system" could have been merged with the chapter on "Characteristics of the sample area and farmers." Some effort and space could have been usefully spent in examining the efficiency of the existing marketing channels, procurement operations and producer's share in the consumer's rupee for different varieties and places.

K. S. GILL

Conditions of Stability and Growth in Arid Agriculture, N. S. Jodha and V. S. Vyas, Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar, 1969. Pp. xvi + 127. Rs. 15.00.

The study attempts to focus attention on the problems of arid agriculture in eleven districts of Rajasthan which form a part of the Great Indian Desert and to suggest an integrated approach for rehabilitation and development of this area. It is based mainly on the statistical and other information available in the Government publications and results of researches done at the Agro-Economic Research Centre and other scientific institutions such as the Central Arid Zone Research Institute and by individual research workers. The study begins with indicating the factors that have led to stagnation and backwardness of agriculture, the prominent amongst which are the inherent deficiencies of natural resources-base, recurrent crop failures and famines and almost total absence of irrigation facilities. Despite the unsuitability of land for crop farming because of the soil-climatic complex, demographic pressure and subsistence orientation of the desert farmers have made crop-raising a common practice even in the driest tracts of the region. This has

resulted in predominance of low value foodgrains in crop pattern, their low and highly variable yields, importing a high degree of instability and uncertainty to the agricultural economy of the region and inhibited progress towards adoption of modern technology. Thus mitigation of yield uncertainty and stabilization of crop yields are a precursor to the growth and stability of the agricultural sector in this region.

The authors have indicated the feasible conditions or measures which can help in bringing about stable and higher production from arid lands. No doubt, the surest way of putting agriculture on a sustained basis would be provision of assured availability of water. The scope for exploitation of surface water being limited, the authors have discussed the possibility for groundwater exploitation. But the full potential of such resources is not known as yet, though some exploratory studies are being carried out. The Rajasthan Canal when completed will serve a very limited area. Considering the risks and costs involved in sinking surface and tube-wells not much of individual efforts will come forth. In the near future the efforts will have to be devoted to maximum conservation and efficient utilization of available moisture, through contour bunding, shelter breaks, wind strip cropping, etc., which may ensure soil conservation as well and prove effective in the case of crop lands as well as pastures.

In view of the deficient natural resources-base and lack of even rudimentary infra-structural facilities, the scope for expansion of area under HYV of bajri and other crops grown is limited. The authors have therefore made out a case for cultivation of grass as a crop which will help in diversification through mixed farming, with crop cultivation and livestock-raising as its two components. To get better results unrestricted and unregulated grazing has to be checked, stall-feeding encouraged, a milk marketing organization set up and deliberate reduction in cattle population planned.

Those areas, where the scope for mixed farming is extremely limited, according to the authors, should be developed as livestock farming areas. For this purpose, they have suggested various measures such as reseeded of range lands by high forage yielding perennial species of grasses, regulated and controlled grazing, contour bunding, contour furrowing, contour trenching and opening of stock water points and encouraging community *tankas* (underground water storages). These measures involve low capital cost and would provide employment to a large number of unskilled labour.

The authors have carefully examined the salient features of the arid economy and have delineated the broad contours of the problem. Considering the expanse of territory and intra-regional variations in soil-climatic conditions, different combinations of the suggested measures will have to be adopted for different zones. An Area Approach may therefore facilitate planning over small areas and building up of the necessary administrative

and institutional structure for its implementation. Recently, under the Lead Bank Scheme detailed reports on the various aspects of economy of the districts covered have been prepared, which will be helpful in this connection. Some of the schemes will involve large expenditure and considering the long gestation period, risks and uncertainty involved, individual cultivators with limited means or financial institutions which are entering into the field of agriculture newly may not be able to undertake full responsibility for capital investment. Thus direct or indirect involvement of Government appears unavoidable. Perhaps we may have to think of new institutions which may bring the Government and the financial agencies and individual farmers concerned together. The Rajasthan Government has been spending large amounts on famine relief every year. It will be paying in the long run to utilize a part of these funds on systematic development of arid agriculture through these these new institutions. If the area planning is thus systematically done, the nationalised banks as also other rural investment financing institutions will need little persuasion to actively participate in these programmes. However, politics needs to be eschewed from these programmes if they are to be, in the long run, beneficial economically to the mass of desert farmers.

V. M. JAKHADE

Behavioral Change in Agriculture: Concepts and Strategies for Influencing Transition, Edited by J. Paul Leagans and Charles P. Loomis, Cornell University Press, Ithaca, New York and London, 1971. Pp. xii + 506. \$12.50. £ 5.95.

Recently Cornell University organized an interesting conference to discuss the "Concepts and Strategies for Behavioral Change in Agricultural Development." Internationally reputed scholars in natural and social sciences participated in the conference which analysed and synthesized many of the elements of an infrastructure essential to the development of agricultural enterprise. The central objective of the conference was "to glean fundamental concepts from the several disciplines and subject areas having high relevance to influencing behavioral change associated with agricultural development in low producing areas of the world, to analyse these concepts, and to indicate their implications for strategy." A "systems analysis" approach was adopted at the conference. The book under review presents eight basic papers discussed at the conference and also the critiques from other specialists.

The volume is divided into five parts. Part I contains two basic papers—one by Arthur T. Mosher and the other by Karl W. Deutsch. Both present a number of concepts describing different aspects of the broad institutional pattern necessary for agricultural development. According to Mosher, for

a progressive agriculture, behavioral changes are essential not among farmers alone, but throughout the entire system. Mosher describes agricultural development as essentially a "systems problem." He identifies eight elements in this system. These are (i) a continuous reassessment of regions of differing agricultural potential within a country, (ii) creation of a progressive rural structure, (iii) achievement of a constantly changing farm technology, (iv) measures to secure and distribute adequate supplies and equipment embodying the new technology, (v) activity to upgrade the quality of the land wherever physically feasible and economically desirable, (vi) production incentives to farmers, (vii) education and training of agriculturally related technicians of many types and varieties, and (viii) public administrative framework and machinery for executing the public activities.

In his criticism of Mosher's paper, Solon Barraclough has rightly argued that Mosher's "system" with its eight elements is far short of what is required and is based on very limited concepts of agricultural development. As he points out, four of the elements in Mosher's system, namely, creation of a progressive rural structure, measures to secure and distribute adequate supplies and equipment embodying the new technology, production incentives to farmers and public administrative machinery for executing the public activities pre-suppose that a process of development and social mobilization is already underway.

Karl Deutsch in his paper, "Developmental Change : Some Political Aspects" stresses the importance of strength, vigour and willingness to change. He suggests that, to break the grip of resistance to change, the change agent should underwrite some risks of innovation.

In Part II, papers are presented by Ralph W. Cummings and J. Paul Leagans on technology and its utilization. Although the emphasis differs, both the authors and the other participants support the proposition that agricultural development requires a constant supply not only of viable technology but of conducive related conditions and an extension system to promote proper application of recommended innovations. Cummings, in his paper on "Agricultural Research and Technology" contests the common assumption that there exists an extensive backlog of accumulated research information waiting to be used, and if demonstrated and used will increase yields. "It is perhaps true that considerably more is known than is being used. In many cases, however, the increases above the very low prevailing yields forthcoming from the application of such knowledge may give insufficiently attractive returns." His view that there is no real substitute for experimentation on location is indisputable. There is no gainsaying that without thorough testing of technical practices to the local environment concerned, their adoption will never be easy.

Leagans' paper on "Extension Education and Modernization" explains that agricultural modernization depends on effective integration of essential

physical, technological, economic, social, political and related elements throughout the hierarchy of the systems in order to attain needed commitment to common purposes and the means to achieve them. Extension education has a crucial role to play in this integration process.

Part III considers the roles of the economy and the polity in agricultural development and stresses the importance of "freedom of choice" on the part of all actors of the system, especially agricultural producers. Kenneth H. Parsons in his paper on "Agricultural Economics" maintains that farmers engaged in even subsistence agriculture are rational and make choices in such a manner that economises scarce resources. Hence he rejects a totalitarian model for achieving agricultural development.

Frederick W. Frey examines "Developmental Aspects of Administration." His focus is on systemic linkage of the government change agents to the people, and he stresses the importance of an excellent communication system between the field and the centre. According to Frey, one of the problems of developing societies is simply that necessary linkages "aren't there to accomplish the task which they have set themselves." In his response to Frey's paper, Jayant Lele makes the important point that the administration charged with developmental goals in developing countries is not by definition a developmental administration. "The problem with many administrative structures in developing societies lies with the fact that they are regulatory structures charged with development goals." No wonder such administrative structures attempt to use authoritarian power to implement developmental goals.

Part IV examines some of the concepts that are relevant in understanding how human and social factors impede agricultural innovation and indicates the implications of the analysis for strategy in introducing innovations in developing countries. Basic papers are presented by Irwin T. Sanders and Harry C. Triandis. According to Sanders, development is a process of which societal change is an important ingredient. A rural sociologist can play a major role in the development process by analysing the social relationships which involve in such programmes and advising the different change agents as to the ways in which programmes can be planned to take advantage of the human resources.

Triandis lists three elements, the agent of change, the farmer and the innovation as closely inter-related in any situation involving behavioural change. He suggests that optimal strategy of change must consider what change will occur in each of these elements and how change in one of these elements will influence change in the others. According to him, it will be "most desirable to select the change agent who belongs to the same culture as the farmer or one who can easily become sensitive to the basic features and requirements for behaviour that is appropriate to the farmer's culture."

Part V provides a complete articulation of the "change agent-change target" systems, as developed in the various papers presented in the earlier parts.

The volume does not offer any recipes for solving specific problems in traditional agriculture. Nevertheless, in so far as it identifies basic concepts it may serve useful to the agents of change attempting to transform tradition-oriented agricultural systems to modern ones.

V. RADHAKRISHNAN

Bangla Desh Economy: Problems and Prospects, Edited by V. K. R. V. Rao, Studies in Economic Growth, No. 15, Institute of Economic Growth, Vikas Publications, Delhi, 1972. Pp. viii + 199. Rs. 24.00.

This book is comprised of eight articles: "Regional Disparity and Economic Development of Pakistan" by Arjun Sengupta, "Economic Stagnation of Bangla Desh" by P. C. Verma, "Land Reform—An Urgent Problem in Bangla Desh" by P. C. Joshi, "Some Economic Problems of Bangla Desh" by B. N. Ganguli, "The Trade Structure of Bangla Desh" by B. B. Bhattacharya, "Indo-Bangla Desh Trade and Investment Prospects" by A. M. Khusro, "Economic Reconstruction of Bangla Desh—Immediate Perspective" by Arjun Sengupta and "Reconstruction of Bangla Desh and of India" by Boudhayan Chattopadhyay. In addition, the book contains an Introduction by V. K. R. V. Rao and his opening speech at the panel discussion on economic prospects of Bangla Desh arranged under the joint auspices of the Institute of Economic Growth and the India International Centre. Rao considers three major factors going in favour of Bangla Desh, *i.e.*, (i) elimination of the dead weight of colonial and metropolitan rule imposed by West Pakistan, (ii) removal of unnatural diversion of economic transactions due to hate-India posture adopted by West Pakistan and (iii) acquisition of new strength and the national will by Bangla Desh. He suggests three pronged approach to the reconstruction of Bangla Desh, *i.e.*, (i) creation of Bangla Desh reconstruction fund to be subscribed by the public in India for long-term interest-free loans to Bangla Desh, (ii) creation of a Bangla Desh Development Corps of dedicated young volunteers and (iii) establishment of a close co-operation, on a non-official basis, between the intellectuals, scientists and other professionals of India and Bangla Desh.

There is a general consensus that there was little in the nature of the economies of East and West Pakistan which would justify such a disparity in their growth over the past two decades that the West would dominate the eastern part. The East Pakistan was as good an agricultural economy as the West, practically self-sufficient in food. While the East was a major exporter of jute and tea, the West exported raw cotton. Both were poor in industrial raw

material. The West had potential for sugar, paper-board and edible oils. The East had potential for leather, paper-board and tea processing. The East was better placed with respect to industrial complex and infrastructure in the initial years. In 1949-50, the East had larger gross provincial product, higher agricultural product and more developed transport and communication and banking services. With population being larger, per capita gross provincial product (GPP), however, happened to be lower than that in the West. By 1954-55, the situation reversed with respect to gross GPP and by 1963-64 disparities widened very considerably in favour of West Pakistan and this trend continued till the East Pakistan emerged as an independent Bangla Desh.

Although the Central Pakistan Government became conscious of the growing disparity between the Eastern and the Western wing by the end of Second Plan, yet the disparity kept widening due to the momentum of the discriminatory policies followed during the First and the Second Plan periods. As indicated by Arjun Sengupta, the disparity ratio of 1.17 in 1954-55 widened to 1.70 by 1969-70. The East Pakistan had a positive balance in foreign trade upto late 'sixties but all the time a negative balance in trade with the West Pakistan. The surplus foreign exchange earnings of the East were utilized for the development of the West Pakistan and the East Pakistan was used as a colonial market for industrial products of the West Pakistan.

In the initial years investment and licencing policy followed by the Central Government stimulated private investment in the West Pakistan, especially in Karachi area. Since the East had foreign trade surplus, but deficit in trade with the West Pakistan, there occurred a net flow of resources into the West Pakistan. With infrastructure more favourably developed and trade as well as industry concentrated in the West, the recognition of disparities in the development of the two wings in later years could not provide any check or reverse the flow of private investment because of relatively higher profitability made possible in the West Pakistan. The anti-Indian posture adopted by the Central Pakistan Government denied the East of favourable trade with India through imposition of trade embargo after 1965. This turned the terms of trade against Bangla Desh with higher input costs as well as higher prices of industrial products imported from the West Pakistan.

In the suggestion for reconstruction of Bangla Desh, emphasis is placed on (1) trade agreements on mutually beneficial terms avoiding restoring the kind of 'complimentarity' between the erstwhile Eastern and Western wings of Pakistan, (2) creation of jute, tea and rice communities in collaboration with India, Ceylon, Burma and Thailand, (3) meeting the foodgrain deficits even by drawing upon the large rice surpluses of Burma and Thailand, (4) initiation of massive hydel power and water resource development programmes and (5) effective and rational economic integration with India,

Ceylon, Burma and Thailand. The Indian private business community has, however, been particularly cautioned not to be led by their usual zeal to get rich quick. It is argued that the private trade be ruthlessly controlled and inter-governmental transactions should strictly adhere to international prices. It is pointed out that under the present situation in Bangla Desh, there is a scope for creation of modern villages and their co-operative self-government.

The book provides an interesting reading, although all the articles are not equally informative. After reading Arjun Sengupta's two articles, B. B. Bhattacharya's article on Trade Structure of Bangla Desh and B. Chattopadhyay's article on Reconstruction of Bangla Desh and of India, the reader can afford to omit reading of other articles without missing much. Surprisingly, none of the writers has examined the extent of financial relief the Bangla Desh as a new nation will get by way of substantial reduction in its defence allocations. The book is a very welcome and informative publication for persons interested in the economy and economic reconstruction of Bangla Desh.

S. S. JOHL

The World Tea Economy, Goutam K. Sarkar, Oxford University Press, Delhi, 1972. Pp. xviii + 237. Rs. 25.00.

Production of tea—the most widely consumed beverage in the world—is of considerable importance to a number of developing countries. The world tea exports in the post-war period have been characterized by fluctuating uptrend. However, there were notable diversities in the rate of growth for different countries. The newly emergent East African exporters recorded the greatest and most sustained increase in exports. Ceylon and the world as a whole registered a moderately fluctuating uptrend while exports from India were slightly downward and marked with large inter-year fluctuations. However, world tea exports failed to keep pace with world production in the post-war period. The slow growth rate of world tea exports in the post-war period may be explained by the sluggish secular uptrend in overseas demand which was due to the low income elasticity of demand for tea in high income countries, a relatively poor sales promotion campaign for tea in import markets and a comparatively minor decline in the cost of production over the same period. It is, however, difficult to say how far the increase in domestic consumption was an actual deterrent to export. The author has attempted to consider in detail all economic aspects of tea, *viz.*, production, consumption, prices and trade as well as the general problems and policies relating to the tea industry in prospect and retrospect. The author has succinctly analysed the various statistical information contained in various publications of the F.A.O. and other organizations of the United Nations, the International Tea Committee, the Tea Board in India and

various other institutions to probe into the problem of the tea industry. The continued fall in prices and profits in the tea industry in recent years is a definite indication of a serious crisis developing in the near future. To overcome the crisis, the goal of the tea industry should be to provide an appropriate framework for an international export regulation scheme. However, the two long-run solutions are (i) cost reduction and quality improvement and (ii) demand promotion, failing which production control and modifications of Government Production Programme would become inevitable. The author considers that tea crop is ideally suited for large-scale production in plantations because the improved scientific management and superior input-mix which are possible in plantations could not be adopted by small holdings. The book is lucidly written and should fulfil the need for a comprehensive economic treatise on the world's tea industry.

K. M. MANDAWALA

Planning Rural Growth Centres for Integrated Area Development: A Study in Miryalguda Taluka, Lalit K. Sen, Sudhir Wanmali, Saradindu Bose, Girish K. Mishra and K. S. Ramesh, National Institute of Community Development, Rajendranagar, Hyderabad-30, 1971. Pp. xiv + 245. Rs. 30.00.

Under the community development programme, an attempt was made to achieve functional integration of a region. Specialists from different departments were placed under the general supervision of an administrative officer at the block level, and their services were made available to the block at one place. However, no attempt was made to obtain spatial integration within and outside the block as a result of which there were some pockets of development, but the block as a whole did not develop. There was uneven development within the block, and integrated area development could not take place. Another reason for this state of affairs was total compartmentalisation of urban and rural. Blocks were defined to be outside the urban areas. The idea that rural development could take place in isolation turned out to be a great fallacy.

Another fallacy that was working in this programme was the idea of developing each village individually. Attempts were made to provide as many services as possible in each village as a result of which there was too much of a thinning over of these services and what was achieved was a mere skeleton. In each village having a school, a co-operative or a village panchayat irrespective of the size of population there was an actual breakdown of these services and a huge loss of scarce resources spent on them.

According to the authors, a few new assumptions will have to be made to remove these deficiencies of the community development programme.

They are:

“1. For the purposes of development the smallest unit of the rural community is not necessarily identical with the revenue village. The revenue village is too small in population base and in resources to sustain development projects. The delineation of the community boundaries should be based on scientific studies of functional linkages of the villages. A search should be made for a *functional community* consisting of a cluster of villages with economic and sociological linkages with each other.

2. Regions and sub-regions also need to be identified on the basis of such studies. These are, again, not necessarily identical with the existing boundaries of the block, taluka, sub-division, etc.

3. In identifying a region, the totality of development process should be taken into account. For example, the urban and rural are integral elements of the development process. A region, therefore, includes both urban and rural.

4. Planned development of our rural areas for the optimum allocation and mobilization of resources should, by definition, be selective. The past attempts at developing Indian villages individually by putting a set of services and functions in them regardless of their ability to sustain them have not succeeded. Aside from the fact that the resources and time are limited, scientifically this is not a feasible proposition. If it is found by scientific study that Indian rural communities consist of a cluster of villages, then a search should also be made for the focal point of the cluster, the central village, where development investments can be located. It will be wasteful to duplicate functions and services by locating them in each constituent village.”

The purpose of the study is therefore to suggest a suitable methodology for integrated area development which refers to two types of integration, functional and spatial, which are themselves inter-related. The inter-relationships among various socio-economic activities depend a great deal on where they are located. Appropriate location of a new function is expected to start a chain reaction of development with far-reaching effects. The locational aspect of development therefore assumes great importance. This is expected to provide an answer not only to the problem of optimum utilization of our resources and their quick returns but also to the problem of balanced development of different regions. Macro level planning provides a broad framework of national priorities, but without the help of micro level planning it can easily lead to uneven development of different regions as at present. Micro level planning can help to fix priorities for different regions depending on their specific needs. Proper implementation of a macro plan also needs the support of micro planning. We have been talking of the need

of micro planning or "planning from below" right from the First Plan, but systematic work on it has not yet been undertaken. It is for the first time that the NICD has undertaken it in Miryalguda taluka of Nalgonda district of Andhra Pradesh, and the book under review is a result of it. In this study the authors have tried to develop a methodology for micro planning which can be utilized elsewhere with success. The main tool of this methodology is the identification of a central village which can act as a focal point of development for the area around it. The service centre and the growth centre are extended versions of the concept of central village. If a suitable infrastructure is provided at the central village, the service centre and the growth centre which are nothing but different settlements in a hierarchical order and if proper linkages are established between them, it is likely to bring about an integrated development of the area in which they are located. Great effort is made in the study to explain how each one of these, *i.e.*, the central village, the service centre and the growth centre is to be identified, because on their proper identification much of the success of this strategy of integrated area development depends. The authors deserve to be congratulated on the lucid exposition of this concept and its practical demonstration. The methodology suggested here in this study will definitely be of great use to our planners, and administrators who have constantly to face the problem of location. For lack of a scientific method, locations are decided at present either on political or similar considerations. Consequently, they fail to help the development process.

The Government of India has started 20 Pilot Projects in Growth Centres in the country under the Fourth Plan. This study will serve the purpose of a good handbook to them. Neat and comprehensive mapping in the study has immensely increased its value.

VIMAL SHAH